

TECHNICAL SESSIONS LISTING

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Capture - Oxygen Combustion and Innovative Processes

Chair: Dr. Curt White, U.S. DOE - NETL

Developments in the SIMTECHE Process - CO₂ Capture by Formation of Hydrates

Gordon Deppe, Jr. PE

CO₂ Capture Project: Oxyfuel Technology Overview

Ivano Miracca

Oxygen-Fired Circulating Fluidized Bed Boilers for Greenhouse Gas Emissions Control and Other Applications

Nsakala ya Nsakala

Oxygen Transport Membranes - An Enabling Technology For Cost-Effective CO₂ Capture

John Sirman

Oxyfuel Combustion for Coal-Fired Power Generation with CO₂ Capture-Opportunities and Challenges

Lars Stromberg

Oxycombustion in pulverized coal-fired boiler: A straightforward technology for CO₂ capture

Rajani Varagani

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Design, hydrodynamic testing and scale-up recommendations of a conceptual large-scale Chemical-Looping Combustion power plant

Bernard Kronberger

Capture - Post Combustion

Cost Efficient Amine Plant Design for Post Combustion CO₂ Capture From Power Plant Flue Gas

Gerald N. Choi, Ph.D.

CO₂ Capture Project: A Comprehensive Overview

Paul Hurst

CO₂ Capture Project: Post-Combustion Technology Overview

Paul Hurst

Recent Technology Development of KS-1 CO₂ Recovery Process

Takashi Kamijo

CO₂ Capture Utilizing Solid Sorbents

Dr. Ranjani Siriwardane

Absorption and Regeneration Studies for CO₂ Capture by Aqueous Ammonia

James T. Yeh

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Criteria for economically-competitive post-combustion CO₂ capture from pulverized coal power plants

Dr. Jon Gibbins

Capture - Pre-Combustion

Carbon-free Hydrogen and Electricity from Coal: Options for Syngas Cooling in Systems Using a Hydrogen Separation Membrane Reactor

Luca De Lorenzo

Power Generation with Reduced CO₂ Emissions via the Sorption Enhanced Water Gas Shift Process

Jeff Hufton

Separation and Capture of CO₂ Using a High Temperature Pressure Swing Adsorption (PSA) System

Nick D. Hutson, Ph.D.

Hydrogen Membrane Development for a Water Gas Shift Reactor

Cliff Lowe

CO₂ Capture Project: Pre-Combustion Technology Overview

Cliff Lowe

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Simultaneous Hydrocarbon Reforming, Carbon Dioxide Sequestration and Hydrogen Separation Using Dense Inorganic Membranes

Anthony F. Sammells

Capture and Separation

Chair: José Figueroa, U.S. DOE - NETL

Technology Options for Controlling CO2 Emissions From Fossil-Fueled Power Plants

John L. Marion

CO2 Capture Projects: Economics Overview

Tom Mikus

Two Novel Approaches to Coal-Fired Power Generation Without CO2 Emission

Aydemir Nehrozoglu, P.E.

Comparative Assessments of PC, NGCC and IGCC Power Plants With and Without CO2 Capture and Storage

Dr. Edward S. Rubin

CO2 Source Assessments for the West Coast Regional Sequestration Partnership

John Ruby

Overview and Insights on the Three Basic CO2 Capture Options

Dale Simbeck

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Geologic Containment

Chair: David M. Hyman, U.S. DOE - NETL

A Methodology to Assess Transport (Leakage) Properties of Wells for Geological Storage of CO₂

Rick Chalaturnyk, Ph.D.

Performance Assessment: IEA Weyburn CO₂ Monitoring and Storage Project

Rick Chalaturnyk, Ph.D.

Thermal Effects Associated with CO₂ Injection on the Integrity of Bounding Seals

Rick Chalaturnyk, Ph.D.

Developing a Roadmap for Risk Assessment for Storage of CO₂ in Geological Formations

Tony Espie

Assessing the Risks of Geological Storage of CO₂ in Mature Oil Fields

Dr. Yann Le Gallo

Remediation Strategies for CO₂ Gas Leakage Plumes in the Vadose Zone

Curt M. Oldenburg

Evaluating the Seal Integrity of Natural CO₂ Reservoirs of the Colorado Plateau

Dr. Stephen White

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Geologic - Field Projects

Chair: Charles W. Byrer, U.S. DOE - NETL

The Ohio Valley CO2 Storage Project - Characterization of Site-Specific Sequestration Potential

Neeraj Gupta

Frio Brine Pilot Carbon Sequestration Project - Status Report

Susan Hovorka

Geo-Seq Project Results

Larry R. Myer

Geologic CO2 Storage Verification Monitoring: Preliminary Results for the Frio Pilot Test

Curt M. Oldenburg

The Coal-Seq Project: Key Results from Field, Laboratory, and Modeling Studies

Scott R. Reeves

Methods for the Prediction, Monitoring and Verification of CO2 Movement: Results from the IEA Weyburn CO2 Storage and Monitoring Project

Don White

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Geologic - Field Projects

Chair: Richard Rhudy, Electric Power Research Institute

Analysis of Reactive Transport Processes Occurring in a CO2 Pilot Injection Test

Aaron Abel

Science and Technology Goals of the Teapot Dome Field Experimental Facility

S. Julio Friedmann

CO2 Storage at the In Salah Gas Project, Algeria

Clive Bishop

A Baseline Seafloor Gravity Survey Over the Sleipner CO2 Sequestration Site

Scott Nooner

Geologic Sequestration of CO2 in West Pearl Queen Field: Results of a Field Demonstration Project

Rajesh Pawar

Natural Analogs for Geologic Sequestration: Cap Rock Evidence for Multi-Million-Year CO2 Storage

Scott H. Stevens

Geological Characterization of the IEA Weyburn CO2 Monitoring and Storage Project

Steve Whittaker

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Geologic - Saline Formations

Mechanisms & Time Scales for Permanent CO₂ Storage in Brine-Bearing Formations

Mark H. Holtz

Experimental Evaluation of Multiphase Fluid-Rock Reactions Among Supercritical Carbon Dioxide, Brine, Aquifer, and Caprock: Integrity of a Geologic Carbon Repository

John P. Kaszuba

Estimating CO₂ Storage Capacity in Saline Aquifers

Vello A. Kuuskraa

Behavior of CO₂ Injection Wells

Karsten Pruess

A W. Virginia Saline Aquifer Reservoir Evaluation Study for CO₂ Sequestration

T. S. Ramakrishnan

Geologic - Feasibility Assessments

Creating a Distributed NATional CARBon Sequestration Database and Geographic Information System (NATCARB)

Timothy R. Carr

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Feasibility of CO₂-EOR/Sequestration in a Giant Offshore Field

Nobuo Imai

CO₂ Reservoirs: Are They Natural Analogs to Engineered Geologic Storage Sites?

James W. Johnson, Ph.D.

CO₂ Sequestration in Depleted Oil and Gas Reservoirs: A Proposed Workflow for Assessing Reservoir Suitability and Capacity

Amie Lucier

Natural Gas Storage Experience and CO₂ Sequestration

Kent F. Perry

Geologic - Coal Seams

Evaluating the Potential for CO₂ Sequestration in Coal Beds in the Alberta Basin, Canada

Stefan Bachu

Optimizing Economics for Sequestering CO₂ in Coal Seams with Horizontal Wells

Grant Bromhal

Direct Observation of CO₂ Sorption on Argonne Premium Coal Samples

Angela L. Goodman Hanson, Ph.D.

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Permeability Variation With CO₂ Injection in Coalgas Reservoirs and Its Impact on Methane Production

Satya Harpalani

A Geochemical Investigation into the Effect of Coal Rank on the Potential Environmental Impacts of CO₂ Sequestration in Deep Coal Beds

Jonathan J. Kolak

Analysis of the Devonian Black Shale in Kentucky for Potential Carbon Dioxide Sequestration and Enhanced Natural Gas Production

Brandon C. Nuttall

Terrestrial - Science, Technology, and Economics - A Joint CASMGS - CSiTE Symposium on Terrestrial Sequestration

Chairs: Charles Rice, Kansas State University

F. Blaine Metting, Pacific Northwest National Laboratory

Modeling Approaches for Understanding & Predicting Soil Carbon Sequestration: Field to Landscape to Region

Dr. R. Cesar Izaurralde

What are the Economic Costs of Measuring and Monitoring Soil Carbon?

Siân Mooney

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Economics of Soil Carbon Sequestration: Accounting for Permanence, Leakage, & Additionality at the Project Level

Brian C. Murray, Ph.D.

Soil Carbon Sequestration: Science and Potential

Dr. Charles Rice

Competitiveness of Soil Carbon as an Option: Is it a Bridge to the Future?

Ronald D. Sands

Importance of Sequestration Duration and Carbon Saturation to Estimates of Soil Carbon Capacity

Tristram O. West

Terrestrial - Science, Technology, and Economics

Estimating Economic Potential for Agricultural Soil Carbon Sequestration Using the Opportunity Cost Approach: Results for the Central United States

Susan M. Capalbo

Regional GHG Mitigation Response and Leakage Effects: Scenario Analysis of U.S. Forestry and Agricultural Activities

Benjamin J. DeAngelo

Electric Utility Industry Perspective on Terrestrial Sequestration

Gary Kaster

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The Role of Aggregation and a Rigorous Management System in the Creation of Agricultural Carbon (and GHG) Offsets ("The Seller's Perspective")

John A. McMorris III

Project Specific or Performance Standard Baseline? Testing the Alternatives for a Forest Carbon Sequestration Project

Allan Sommer

Terrestrial Carbon Storage Potential for the Southwestern United States

Jerry W. Stuth

Carbon Sequestration in the U.S. Greenhouse Gas Inventory

Margaret Walsh, Ph.D.

Terrestrial - Sequestration in Forests

Chair: Richard A. Birdsey, USDA Forest Service

Landscape Carbon Monitoring and Analysis at the Experimental Forest Network

Richard A. Birdsey

Carbon Sequestration and Greenhouse Gas Emissions in Forested Wetlands of the Lower Mississippi River Valley

Stephen Faulkner, Ph.D.

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Carbon Storage Due to Disposal of Harvested Wood Products & Yard Trimmings in U.S. Landfills

Randall Freed

An Improved Method for Assessing Carbon Sequestration and Biodiversity in Tropical Forest Areas

Patrick Gonzalez

The Effects of Reclamation Practices on Carbon Pools in Reclaimed Hardwood Forests

Pierre-André Jacinthe

Terrestrial - Sequestration in Soils

Characteristics of Measurements of Total Carbon in Soils With Laser-Induced Breakdown Spectroscopy (LIBS): Improving Analytical Capabilities

David A. Cremers

CO₂ Sorption by Soils and Peat

Dr. Peter I. Ravikovitch

SOC Sequestration Rates for Age Chronosequence of Reclaimed Soils

Manoj K. Shukla, Ph.D.

Fate and Transport of Dissolved Organic Carbon in Soils from Two Contrasting Watersheds

Jana Tarver

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Estimate of the Volume Sampled During Non-Destructive INS Soil Carbon Determination

Lucian Wielopolski, Ph.D.

Enhancing Soil Carbon Sequestration on Phosphate Mine Lands in Florida by Planting Short-Rotation Bioenergy Crops

Stan D. Wullschleger, PhD.

Advanced Concepts - Mineralization, Capture

Amine-Modified Nanostructured Materials for Reversible CO2 Capture

Christopher Aardahl

CO2-Capture Using Dedicated Membrane Contractor Systems

Nick A.M. ten Asbroek, M.Sc.

Carbonation of Serpentine for Safe, Effective and Permanent CO2 Sequestration

James G. Blencoe, Ph.D.

CO2 Mineralization as an Option in the Carbon Storage Strategy for the U.S. Southwest Region

George D. Guthrie, Jr.

Novel Methods for Sequestration of CO2 Using Industrial Wastes and Byproducts

S. Komar Kawatra

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Exploring the Mechanisms that Control Olivine Carbonation Reactivity During Aqueous Mineral Carbonation

Michael J. McKelvy

Conversion of Carbon to Calcium Carbonates via Carbonation Curing of Concrete

Yixin Shao, Ph.D.

Advanced Concepts - Ocean and Biological

The Controlled Eutrophication Process for Environmental Remediation and Greenhouse Gas Abatement

David E. Brune

Microalgal Removal of CO₂ From Flue Gases: A Comprehensive Overview

Miguel Olaizola, Ph.D.

Formation and Spectroscopy of a CO₂ Hydrate Composite for Ocean Carbon Sequestration

Costas Tsouris, Ph.D.

Dissolution of CO₂ Drops and CO₂ Hydrate Stability Under Simulated Deep Ocean Condition in a High-Pressure Water Tunnel

Robert P. Warzinski

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Case Studies and Systems Analyses - Direct Capture and Sequestration

Chair: Edward Rubin

Low-BTU Hydrocarbon Fields as Natural Analogs for Geologic CO2 Storage

Sean T. Brennan

**Natural Leaking CO2-Charged Systems as Analogs for Geologic Sequestration Sites:
A Failure Analysis to Condition Engineered Systems**

Jason Heath

**A Systems Perspective for Assessing Carbon Dioxide Capture and Storage
Opportunities**

Howard Herzog

**CO2 Storage Capacity and Distribution Predictions and the Application of Economic
Limits**

David H. Law, Ph.D.

A Framework for Assessing Carbon Storage in the Southwestern United States

Orman Paananen

NGCAS - Next Generation Capture and Storage

Michael R. Saunders

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Terrestrial Sequestration - Case Studies

Chair: Joel Brown, USDA Nat. Res. Cons. Svc.

Optimizing Field Methods for Large-Scale Inventory-based Terrestrial C Budgets: A Pilot Test in the Delaware River Basin

Jennifer C. Jenkins

Reforestation for carbon sequestration in lands affected by shifting cultivation in India's North East

Promode Kant

Carbon Sequestration: Tradeoff of Land Retirement and Conservation on Working Land

Lyubov Kurkalova

Historical Carbon Losses in Senegal: Options & Constraints for Sequestration

Larry L. Tieszen

Sequestration R&D Programs

Chair: Sarah M. Forbes, U.S. DOE - NETL

A Survey of Measurement, Monitoring, and Verification Technologies For Carbon Sequestration and Roadmap Development

Karen Cohen

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Coal Technologies Incorporating CO₂ Capture - A Program For Research, Development, Demonstration and Deployment

Stuart Dalton

CO₂ Capture Project: Storage, Monitoring & Verification Overview

Scott W. Imbus

CO₂ Sequestration and Its Role in Environmentally Sustainable Power from Coal

Umesh P. Singh

Overview of CO₂ Capture/Reduction Strategies in the U.S. and Internationally

Chair: Heleen De Coninck, IPCC

Future U.S. Greenhouse Gas Emission Reduction Scenarios Consistent with Atmospheric Stabilization

Vello A. Kuuskraa

CO₂ Capture & Sequestration in Germany: Status and Perspectives

Peter Markewitz

The Role of Carbon Capture and Sequestration in a Low Carbon Economy

Brian Morris

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The R&D-Programme GEOTECHNOLOGIEN - A National Platform for CO2 Storage Initiatives in Germany

Dr. Ludwig Stroink

Use of Life Cycle Assessment In Analysis of Emissions Reductions and Sequestration Strategies for Power Generation

Paul Worhach, Ph.D.

CO2 Capture Project: Overview of Global Policies

Iain W. Wright

Public Outreach and Education

Sequestration in the Media: Changes in Public Perception

Sarah Forbes

Public Acceptance of CO2 Capture and Storage: Exploratory Factor Analyses on a Public Survey

Kenshi Itaoka

Enhancing Outreach and Education by Strategic Integration of Multiple Communication Media

Tarla Rai Peterson

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Viewing Carbon Sequestration Research in Context: Assessing the Impact of Information on Global Climate Change and Research Design as Factors in Public Acceptance

Sarah M. Wade

CO2 Capture Project: Outreach Overview

Iain Wright

Accounting and Market Considerations

An Accounting Rule for Carbon Capture and Storage

Makoto Akai

A Carbon Credits Market Depends on Defining Just What a Credit Is

James Voss, FINucE, Ceng

Eco-carbon Accounting Method (ECAM) for Evaluating Environmental Impact and Co-benefit of Combined Carbon Management Projects: 2) Optimal Portfolio and Technological Innovation

Yoshiki Yamagata